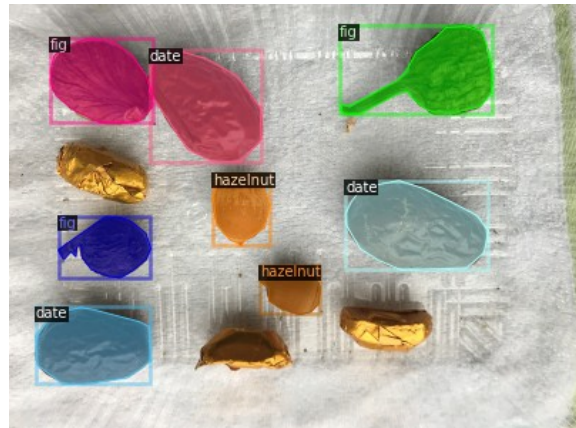
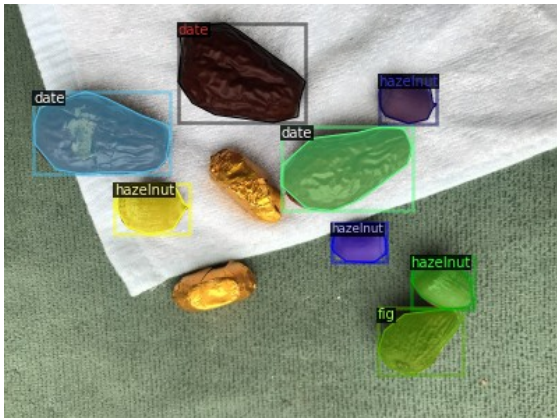


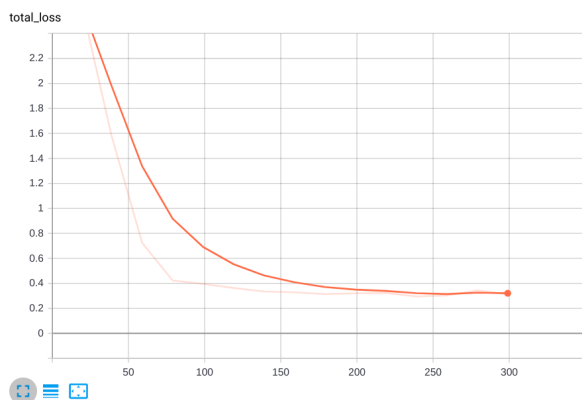
Name: Sewade Ogun

## Lab 2 Report

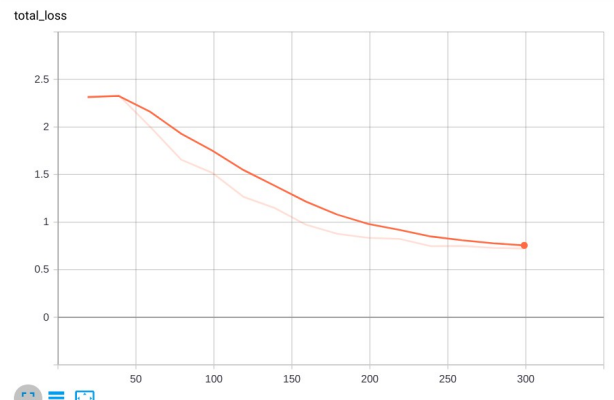
### Part A: Visualization of Training Annotations



### Part B: Plots of Total Loss VS Number of Iterations

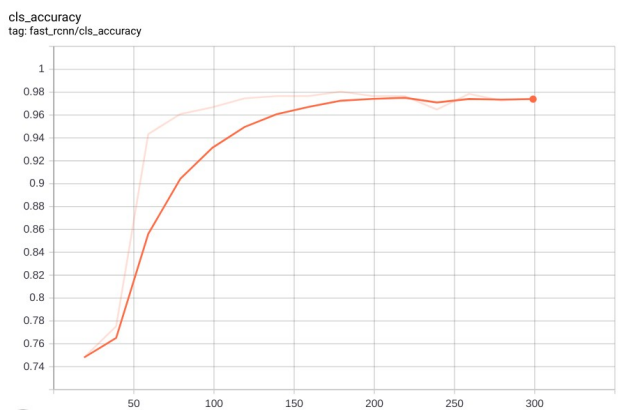


a) Total Loss for COCOinit model

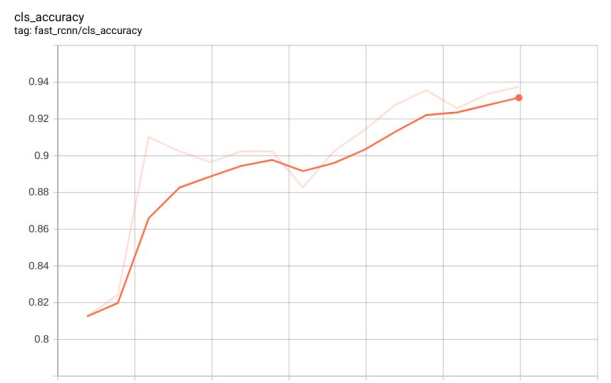


b) Total Loss for INinit model

### Plots of Accuracy VS Number of Iterations



a) Accuracy for COCOinit Train Set



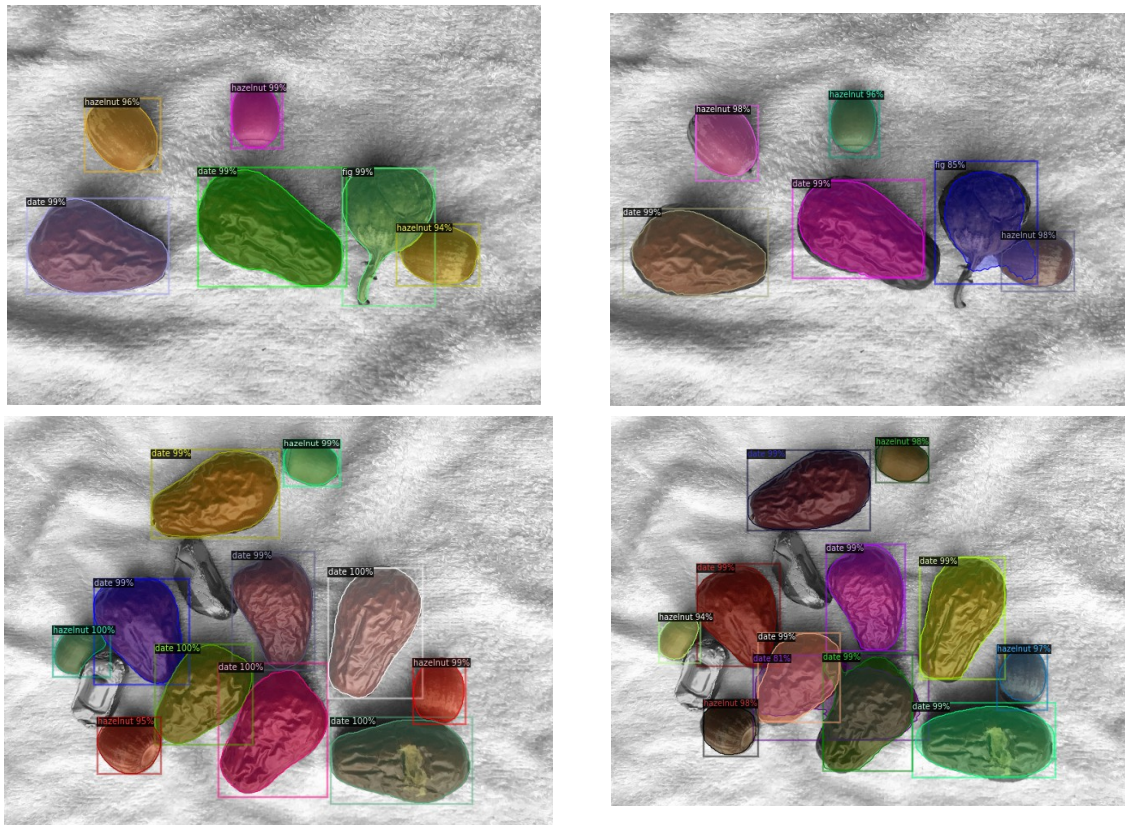
b) Accuracy for INinit Train Set

### Observations from Training Curves:

- Total training loss for COCOinit continuously reduced and became flat about 250 iterations. Total training loss for INinit continues to decrease but means will require more iterations before convergence.
- At 300 iterations, the training loss for COCOinit (0.3) was lower than that of INinit (0.7)
- The training accuracy for COCOinit was also higher than that of INinit at the last iterations

## Visualization of Predictions for Models

COCOinit
INinit



**Observation:** The predictions of the COCOinit model are better with more accurate bounding boxes and instance segmentation masks

### Evaluation Results for COCOinit and INinit Pretrained Models

Evaluation results for COCOinit bbox:

AP	AP50	AP75	APs	APm	API
81.264	100.000	95.050	nan	75.857	86.551

Evaluation results for COCOinit segmentation:

AP	AP50	AP75	APs	APm	API
92.967	100.000	100.000	nan	89.793	94.468

Evaluation results for INinit bbox:

AP	AP50	AP75	APs	APm	API
58.012	100.000	54.090	nan	70.115	45.089

Evaluation results for INinit segmentation:

AP	AP50	AP75	APs	APm	API
68.665	100.000	85.466	nan	75.998	62.944

**Observation:** The COCOinit model performs best. Its Average Precision results for the categories are better than that of INinit model except at AP50 where they have similar results of 100.